

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. All claims remaining in the application, whether or not amended, are included below to assist the printer.

Amend claims 143, 144, and 151 thus:

Claim 143 (Amended). A functional engineered fluorescent protein whose amino acid sequence is at least 85% identical to the amino acid sequence of *Aequorea* green fluorescent protein set forth in SEQ ID NO:2 and which differs at least from SEQ ID NO:2 by

- i) comprising the substitutions T203Y; S65G; S72A; V68L; and either of H148Q or H148G; and
- ii) further comprising at least one substitution selected from the group consisting of R96K; ~~Q183N or K~~; V150S, T, Q, N, A, C, M, or G or L; I152L, V, F, S, T, Q, N, A, C, M, or G; F165L; ~~F165Y, W, or L~~; H181F, W, K or R; Q183R, N, S, or C; and L201S, T, Q, N, V, I, A, C, M, or G;

wherein said functional engineered fluorescent protein has a different fluorescent property and altered anion binding affinity as compared to the *Aequorea* green fluorescent protein having the amino acid sequence set forth in SEQ ID NO:2, and wherein said functional engineered fluorescent protein has fluorescent emission in the visible spectrum.

Claim 144 (Amended). A functional engineered fluorescent protein whose amino acid sequence is at least 85% identical to the amino acid sequence of *Aequorea* green fluorescent protein set forth in SEQ ID NO:2 and which at least differs from SEQ ID NO:2 by

- i) comprising the substitutions T203Y; S65G; S72A; V68L; and one of H148R, H148G, H148Q, H148A, H148N, or H148K; and
- ii) further comprising at least one substitution selected from the group consisting of R96K; ~~Q183N or K~~; V150S, T, Q, N, A, C, M, or G or L; I152L, V, F, S, T, Q, N, A, C, M, or G; F165L; ~~F165Y, W, or L~~; H181F, W, K or R; Q183R, N, S, or C; and L201S, T, Q, N, V, I, A, C, M, or G;

wherein said functional engineered fluorescent protein has a different anion binding affinity as compared to the *Aequorea* green fluorescent protein having the amino acid sequence set forth

in of SEQ ID NO:2, and wherein said functional engineered fluorescent protein has fluorescent emission in the visible spectrum.

Claim 145 (Previously presented). The functional engineered fluorescent protein of claim 143, wherein said substitution at position H148 is H148Q.

Claim 146 (Previously presented). The functional engineered fluorescent protein of claim 143, wherein said substitution at position H148 is H148G.

Claim 148 (Previously presented). The functional engineered fluorescent protein of claim 143, wherein said functional engineered fluorescent protein comprises a substitution at position V150.

Claim 149 (Previously presented). The functional engineered fluorescent protein of claim 148, wherein said substitution at position V150 is selected from the group consisting of Q, S, T and N.

Claim 150 (Previously presented). The functional engineered fluorescent protein of claim 143, wherein said functional engineered fluorescent protein further comprises a substitution at position V163.

Claim 151 (Amended). A The functional engineered fluorescent protein whose amino acid sequence is at least 85% identical to the amino acid sequence of *Aequorea* green fluorescent protein set forth in SEQ ID NO:2 and which differs at least from SEQ ID NO:2 by of claim 150, wherein said substitution at position V163 is selected from the group consisting of Q

i) comprising the substitutions T203Y; S65G; S72A; V68L; and one of H148R, H148G, H148Q, H148A, H148N, or H148K;

ii) further comprising at least one substitution selected from the group consisting of V163Q, S, T and N; and

iii) additionally comprising at least one substitution selected from the group consisting of R96K; V150S, T, Q, N, A, C, M, G or L; I152L, V, F, S, T, Q, N, A, C, M, or G; F165Y, W, or L; H181F, W, K or R; Q183K, N, R, S, or C; and L201S, T, Q, N, V, I, A, C, M, or G;

wherein said functional engineered fluorescent protein has a different fluorescent property and altered anion binding affinity as compared to the *Aequorea* green fluorescent protein having the amino acid sequence set forth in of SEQ ID NO:2, and wherein said functional engineered fluorescent protein has fluorescent emission in the visible spectrum.

Claim 188 (Previously presented). The functional engineered fluorescent protein of claim 144, wherein the amino acid sequence of the protein is at least 90% identical to the amino acid sequence of SEQ ID NO:2.

Claim 189 (Previously presented). The functional engineered fluorescent protein of claim 143, wherein the amino acid sequence of the protein is at least 90% identical to the amino acid sequence of SEQ ID NO:2.

Claim 190 (Previously presented). The functional engineered fluorescent protein of claim 143, wherein the amino acid sequence of the protein is at least 95% identical to the amino acid sequence of SEQ ID NO:2.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Frank J. Mycroft on 30 December 2008.

The following is an examiner's statement of reasons for allowance:

Applicant's amendments filed December 2008 have been entered and remove the bases for objections of record to claims 143, 144 and 150 herein, which objections are WITHDRAWN. It is agreed that the amendments to the terminal clauses of claims 143 and 144 do not introduce any new matter to the disclosure and these amendments remove the basis for the rejection of record of claims 143-146, 148-151 and 188-190 herein under the first paragraph of 35 U.S.C. § 112, which rejection is WITHDRAWN. Applicant's argument traversing the rejection of record for obviousness-type double patenting over claims of US Patent No. 7,015,310 is persuasive, and this rejection is WITHDRAWN. The examiner's amendment above removes the bases for rejections of record of claims herein for obviousness-type double patenting over claims of US patents Nos. 6,150,176 and 6,780,975 by (1) rewriting clauses (ii) of claims 143 and 144 to remove certain substitutions disclosed, but not specifically identified, in claims of commonly-assigned US patents having a different inventive entity than the two co-inventors herein, and (2) rewriting claim 151 as an independent claim that includes in a rewritten clause (iii) each of the four substitutions removed from claims 143 and 144 above where claim 151 requires further, particular, substitutions in a rewritten clause (ii) not disclosed in commonly-assigned US patents having a different inventive entity than the two co-inventors herein. The examiner's amendment also removes an inadvertent duplication of the substitution Q183 that had occurred in clauses (ii) of claims 143 and 144, permitting allowance of claims 143-146, 148-151 and 188-190 herein.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the

issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William W. Moore whose telephone number is 571.272.0933 and whose FAX number is 571.273.0933. The examiner can normally be reached Monday through Friday between 9:00AM and 5:30PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisory Primary Examiner, Jon Weber, Ph.D., can be reached at 571.272.0925. The official FAX number for all communications for the organization where this application or proceeding is assigned is 571.273.8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571.272.1600.

/William W. Moore/
Examiner, Art Unit 1656

/JON P WEBER/
Supervisory Patent Examiner, Art Unit 1656